Project Descriptions for November 6, 2019

Board of Trustees Meeting

Asset Management Program Grant Commitments

Brockton CW-19-25
Development of the City's asset management plan for the stormwater infrastructure system. This plan will be crucial to developing future budgeting and maintenance requirements for the City's stormwater infrastructure. Building upon past geographic information system (GIS) work, the City is requesting assistance to inventory the stormwater horizontal infrastructure through the purchase of asset management hardware and software, training for use of the software and hardware, updating the stormwater GIS based on as-built drawing research and field assessments, and preparing a report which provides the City with prioritized assets, replacement cost of assets and a priority list of assets.

East Longmeadow CW-19-20
This project will allow the East Longmeadow DPW to develop an asset management plan for their water, sewer and stormwater systems. The asset management plan will inventory the drinking water, wastewater, and stormwater systems; evaluate and prioritize assets; outline useful life and criticality value of assets; provide replacement costs for each asset; provide a priority list of assets for a five year period; prepare annual charge system costs for a five year period; update their asset management software; perform field assessment for useful life and criticality of assets; assure utilization by East Longmeadow.

Gloucester CW-19-24
This asset management plan will include the water system assets and the wastewater treatment facility assets. Included in this asset management plan is a refinement of the Gloucester's asset inventory, condition assessment, development of asset replacement costs, updating of the City's GIS and CMMS system, criticality analysis, development of priority list of assets, a financial implementation plan and a asset management plan summarizing the work completed.

Clean Water Commitments

Billerica CW-19-09
This construction project includes modifications and additions to the existing WWTF aimed at improving functionality, safety, & treatment. Aging chemical tanks will be replaced to maintain a safe environment at the WWTF. A Vactor truck unloading station will be installed to alleviate the operator-intensive set up currently in place. A new plant-wise emergency generator will be installed & the existing generator will be removed. Sludge conveyors will be installed to improve the ease of hauling sludge. Additionally, several buildings will be renovated to increase lab space, machine shop area of maintenance of collection system equipment and for storage for vehicles. The Salem Road pump station will also be upgraded to replace aging equipment.

Lawrence CW-19-06
This project will rehabilitate and replace sewer system defects, and operational and maintenance issues identified in the 2017 SSES report. The sewer and drainage system improvements will address structural pipe failures, reduce infiltration and inflow sources, and abate illicit cross-connections to the MS4 areas.

Leominster CW-19-26
This is a nutrient removal project that consists of an evaluation of Leominster's Water Pollution Control Facility's (WPCF) aeration and secondary clarifier systems. All systems will be upgraded with new premium motors equipped with VFDs for optimum efficiency. A new DO control system and SCADA upgrades will be installed to maintain proper DO levels in the aeration basin to facilitate aeration zones and increase nutrient removal.

Marion CW-18-37
The objective of the Wastewater Treatment and Collection System Improvements Project is to address regulatory required upgrades at the Town's wastewater treatment plant (WWTP) and improve the overall operations of the Town's wastewater collection system by: Reducing the volume of infiltration and inflow (I/I) entering the collection system; Addressing improvements at the WWTP as required by the Town's final National Pollution Discharge Elimination System (NPDES) Permit; and Complete wastewater pumping station improvements to address aging equipment.

Drinking Water Commitment

Billerica DW-19-04
The project includes upgrades to the existing Water Treatment Plant, related to the 20-year old ozone generation equipment. The proposed improvements are to the treatment process, electrical system, SCADA system, structural and the HVAC system.

Asset Management Program Grant Agreements

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Ipswich CWA-19-08
The Town of Ipswich Water and Wastewater Departments will work collaboratively with W&C to prepare an AMP to inventory and assess the current state of the Town's water and wastewater system assets; evaluate the level of service in terms of quality, quantity, reliability and environmental standards; identify assets critical to sustaining system performance; quantify minimum life cycle costs for critical assets, operations and maintenance; and determine a long-term funding strategy to ensure high-level performance and pipe integrity. . Results from this assessment will be presented in both tabular and narrative forms.

Medford CWA-19-19
The City of Medford currently manages capital improvements of drinking water, sewer, and stormwater infrastructure using different applications, personnel, and budgets. This decentralization of resources is becoming burdensome for the City, and it is motivating the City to implement an integrated approach to asset management. Through this grant program, the City will accomplish its goals by:
•Collecting inventory and condition data drinking water, wastewater, and stormwater systems
•Prioritizing renewal and replacement needs holistically
•Developing an objective method of managing infrastructure formalized through its AMP
•Implementing and providing training on asset management software

Clean Water Agreements

Bourne CWP-19-07
The project involves construction of a new 100,000 gpd package wastewater treatment facility with subsurface discharge on town-owned land. The plant is designed using MBR technology. A Groundwater Discharge Permit has been approved for the plant and discharge. Based on detailed site testing and groundwater modeling, treated effluent will move towards the Cape Cod Canal. Added capacity is needed to handle flows above the 200,000 gpd capacity owned by Bourne in the Wareham WWTF. That plant, where no added capacity is available for Bourne's use, discharges to the Agawam River. Existing sewer flows from a portion of Bourne's sewered area will be intercepted and re-directed to the new treatment plant, redirecting treated effluent away from the Agawam River.

Fall River CWP-18-36
The purpose of this project is to fully replace a 1400 gpm sewer pump station that serves a population equivalent of 4500. Constructed in the 1960's, the pump station is beyond its useful life. Existing piping, pumps, electrical equipment, instrumentation and standby power system are severely corroded due to age. The pump station is unable the consistently handle wet weather flows, resulting in SSO's.

A new submersible pump station will be constructed with additional capacity, standby power generator, motor controls and SCADA system. Operation of the new pump station will not require confined space entry. Force main isolation valves, bypass connection and flow meter will give the City flexibility in emergency operations and SSO control.

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Winthrop CWP-19-05
This project includes upgrading existing sanitary sewer and stormwater infrastructure in the Centre Business District that are failing and need to be replaced to increase capacity. Sewer backups and inflow/infiltration related to broken and failing sewer mains occur. This project will replace existing sewer main and laterals with new pipe sized for current and future flows. The design will improve hydraulics by increasing slope, promoting self-cleansing velocities and correcting inverse sloped pipe. Drainage system improvements include increasing the capacity of undersized pipe to reduce flooding concerns and convey stormwater flows. Drainage design includes tree box filter treatment. Drains have been sized to account for additional runoff.

Drinking Water Agreement

Dunstable DW-19-05

The project involves the construction of a new 75,000 gallon elevated steel storage tank and approximately 1,800 LF of associated water main replacement to improve system hydraulics. To optimize the existing chemical feed for pH control, the project also includes various well station improvements at the Dunstable well field site along with minor access road improvements. The water infrastructure upgrades proposed in this project are needed to meet the requirements of an Administrative Consent Order with Penalty (ACOP) that was issued by MassDEP in May 2018 (ACOP-CE-18-5D00004407).